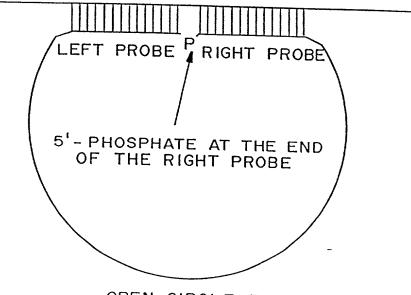
## SINGLE-STRANDED TARGET



OPEN CIRCLE PROBE

F/G. 1

## SINGLE-STRANDED TARGET

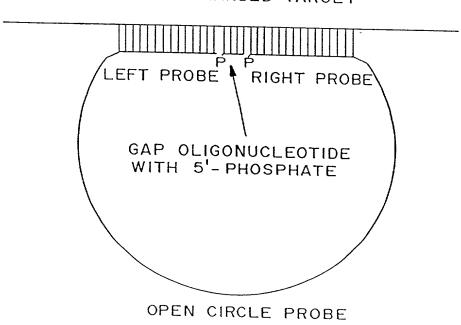
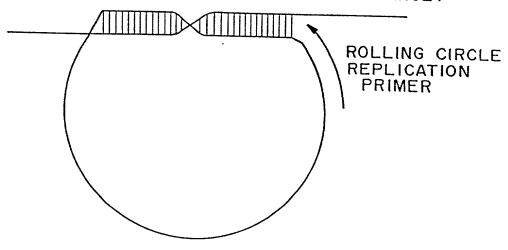


FIG. 2

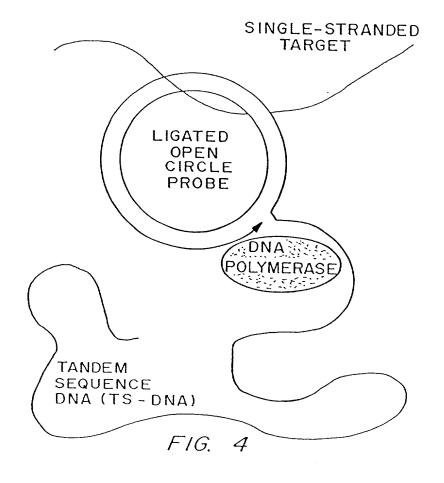
## SINGLE-STRANDED TARGET



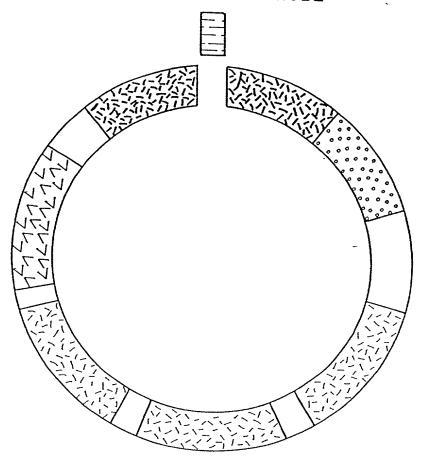
LIGATED OPEN CIRCLE PROBE

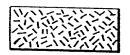
F1G. 3

ROLLING CIRCLE AMPLIFICATION



# OPEN CIRCLE PROBE

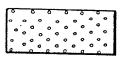




= TARGET PROBE (LEFT AND RIGHT TARGET PROBES)



= PROMOTER



= PRIMER COMPLEMENT



= DETECTION TAGS (OR SECONDARY TARGETS)



= GAP OLIGONUCLEOTIDE

F1G. 5

# ADDRESS PROBE HYBRIDIZING TO TS-DNA PORTION BRIDGING GAP OLIGONUCLEOTIDE AND TARGET PROBE ENDS

5' -CCTT- -3'

GAP OLIGONUCLEOTIDE

5'-TTTTTTTTTTTTTTTTTTTGTATTCCTTGCCTG -3' ADDRESS PROBE

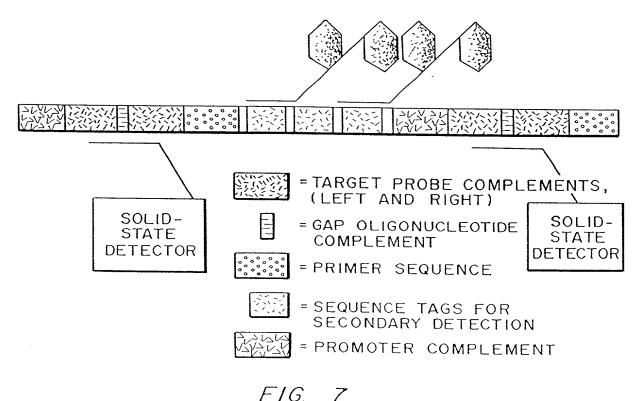
HYBRIDIZATION OF TS-DNA AND ADDRESS PROBE

3'-ACAGACGAGGAGACAGACGAGACGAGGTCCCTAGACGAG -5'
||||||||||||| TS-DNA
GTATTCCTTGCCTG -3' ADDRESS PROBE

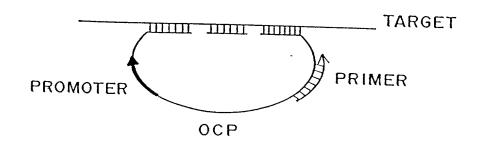
5'-TTTTTTTTTTTTTTTTT

FIG. 6

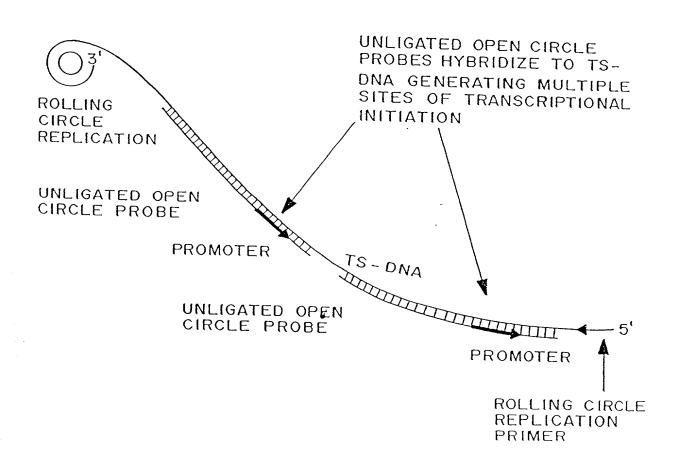
DETECTION PROBES WITH FLUORESCENT LABELS



# LM-RCA FOLLOWED BY TRANSCRIPTION

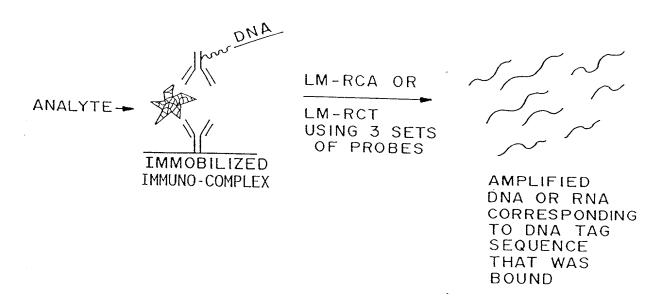


F1G. 8



#### REPORTER ANTIBODIES

#### **ASSAY**



F1G. 9

## FIG. 10

## DETECTION EXAMPLE

AMPLIFIED DNA OR RNA #2

HYBRIDIZATION WITH THREE

SPECIFIC DETECTION PROBES WITH DIFFERENT LABELS

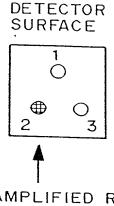
FLUORESCENT

#2

## DETECTION EXAMPLE

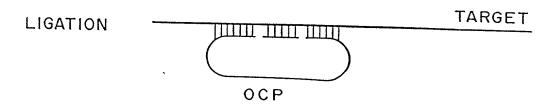
AMPLIFIED DNA
OR RNA
# 2

HYBRIDIZATION



AMPLIFIED RNA BINDS TO DOT #2 BY HYBRIDIZATION

FIG. 11a



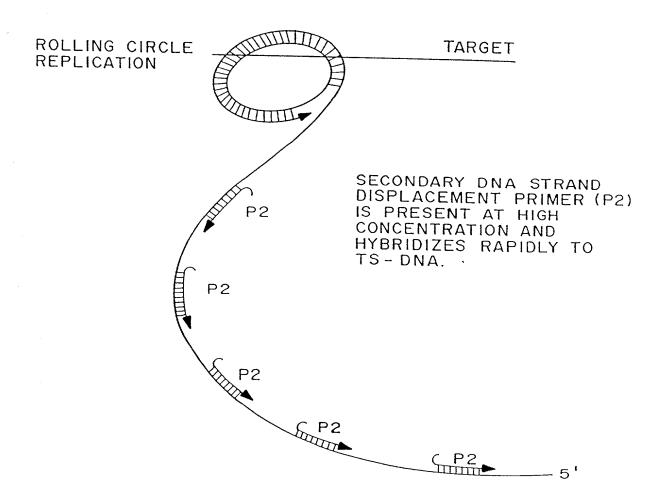


FIG. 11b

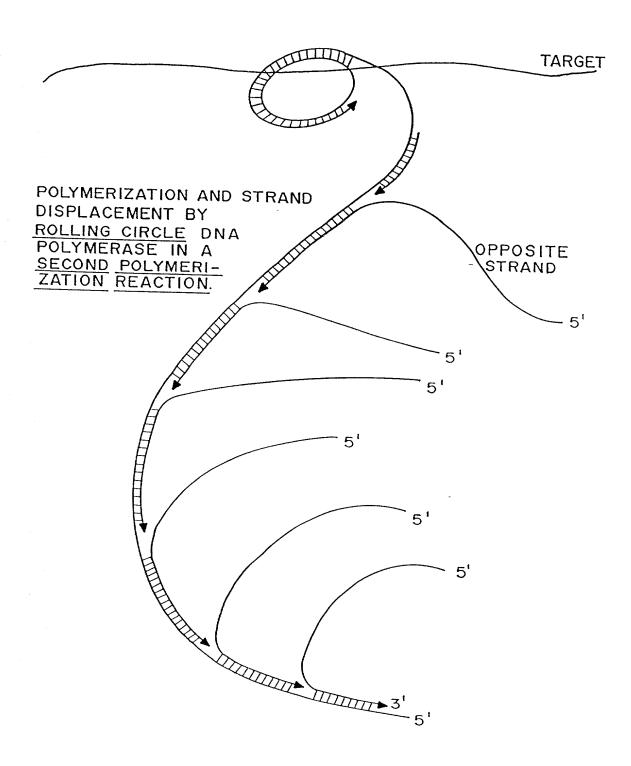
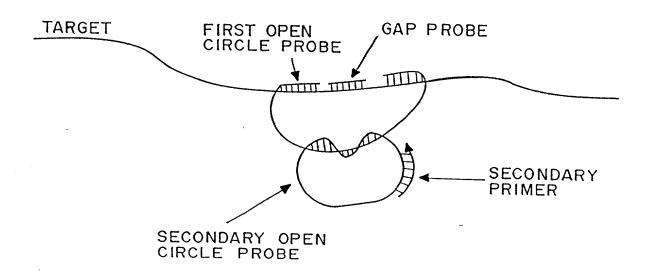
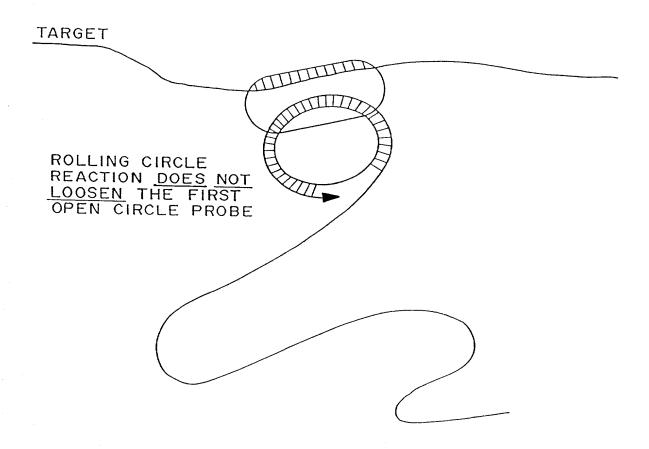


FIG. 12





## STRAND DISPLACEMENT CASCADE REACTION ROLLING CIRCLE P1 P<sub>1</sub> TS-DNA-3 P2 P2-TS-DNA-3 P2 P2 `P2 P2 TS-DNA-4 P2 P2 P2 P2 TS-DNA-4 P2 P2 P2 P2 P2 P2 P2 TS-DNA-2 P2 P1. P1 TS-DNA-P1. P1-P<sub>1</sub> P2 TS-DNA-2 P2 F/G. 13 P2

# OPPOSITE STRAND AMPLIFICATION

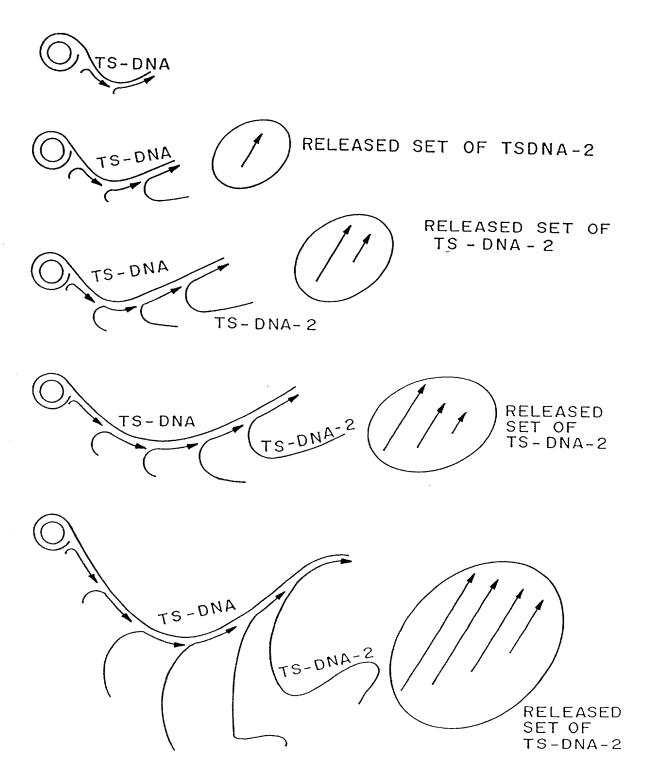


FIG. 14